BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

FILED
04/27/20
04:59 PM

Order Instituting Rulemaking to Continue the Development of Rates and Infrastructure for Vehicle Electrification.	Rulemaking 18-12-006 (Filed Dec. 19, 2018)

SAN DIEGO GAS & ELECTRIC COMPANY'S (U 902-E) REPLY COMMENTS ON THE TRANSPORTATION ELECTRIFICATION FRAMEWORK OVERVIEW, INVESTOR-OWNED UTILITY TRANSPORTATION ELECTRIFICATION PLAN DEVELOPMENT, IOU ROLES, AND NEAR-TERM INVESTMENT PRIORITIES (SECTIONS 2, 3.1, 3.2, 3.3, 4, AND 5)

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April 27, 2020

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I. INTRODUCTION

San Diego Gas & Electric Company ("SDG&E") provides the following reply comments on Sections 2, 3.1, 3.2, 3.3, 4, and 5 of the Draft Transportation Electrification Framework ("Draft TEF" or "Staff Proposal") pursuant to Administrative Law Judge ("ALJ") Doherty's March 24, 2020 email ruling. Consistent with numerous parties' opening comments, SDG&E believes that:

- Meeting California's aggressive transportation electrification ("TE") goals requires guidance and coordination from state-level agencies, as well as the flexibility to allow regional entities, including utilities, to design TE programs suited to their regions;
- ALJ Doherty's March 24 email ruling clarifying that applications filed before a Final TEF is approved will be considered solely under Senate Bill ("SB") 350 is welcomed;
- The Final TEF should similarly provide that applications filed before a utility's Transportation Electrification Plan ("TEP") is adopted will likewise solely be considered under SB 350 and not artificially limited by incorrect conclusions about market maturity or otherwise restricted by parameters that inhibit the ability of utilities to help support state goals;
- The Draft TEF's overly prescriptive and cumbersome TEP process should be replaced with a simultaneous 5-year planning and application for program funding provision; and
- Any final plan should provide for a separate "make-ready" tariff for utility-side of the meter TE infrastructure.

The COVID-19 pandemic emergency will only further delay the development of a functioning TE market due to market uncertainty and reduced economic activity. Now, more

than ever, rather than freeze TE development, the Commission should prioritize immediate, targeted TE infrastructure investments to make sure that this crisis does not result in the State missing its goal of five million clean vehicles by 2030 – and instead ensure that economic recovery efforts are focused on creating the jobs of tomorrow in clean energy and developing a functioning and sustained TE market. The Draft TEF was developed before the COVID-19 emergency arose. It cannot now simply be adopted as written as if the ongoing COVID-19 related economic crisis does not exist.

II. THE RECOMMENDED STEPS IN "REALIZING THE VISION ESTABLISHED BY SENATE BILL 350" SHOULD BE ADOPTED IN THE FINAL TEF

SDG&E recognizes the need for the coordinated state-level planning articulated in the Draft TEF. In order to enable this planning to comply with state TE goals and emission reductions mandates, SDG&E supports the steps recommended in the Natural Resources Defense Council's ("NRDC") reply comments "Appendix A: Realizing the Vision Established by Senate Bill 350," and believes the Final TEF should adopt those recommendations. Specifically, the Final TEF should:

1. Authorize and expeditiously approve the submission of a simultaneous five-year strategic TEP and funding proposal, designed in conjunction with regional transportation and climate action plans, to meet regional greenhouse gas reduction and air quality goals and accelerate widespread EV adoption as a part of meeting the state's climate, air quality, and equity goals; and

2. Adopt a new tariff to defray customer costs and streamline utility-side infrastructure deployment by establishing that utility-side make-ready infrastructure is a core utility function to be offered to TE customers.

Taken together, as discussed further below, these steps will accelerate TE in California, help meet state climate policy, and provide a robust response to the economic disruptions of the ongoing COVID-19 crisis.

III. THE DRAFT TEF'S EFFECTIVE FREEZE ON UTILITY TRANSPORTATION INFRASTRUCTURE INVESTMENT PRIOR TO A UTILITY TEP MUST BE REJECTED

ALJ Doherty's March 24, 2020 email ruling helpfully clarified that utilities may file applications "for Commission approval for transportation electrification investment [that] meet the directives of Public Utilities Code Section 740.12," prior to the Commission adopting a Final

TEF.[1] As the email ruling reiterated, Section 740.12 "directs the Commission to approve, or modify and approve, IOU program applications that support the widespread adoption of transportation electrification."[2] The Ruling further added that the Draft TEF's suggestion that its proposed application restrictions were effective upon the release of the Draft was an error, as the Draft has not been adopted by the Commission and so cannot limit or place any standards of review on utility applications.[3]

SDG&E appreciates this important clarification. The Commission should similarly remove any limitations in the Final TEF on applications filed before the adoption of a utility TEP. Instead, the agency should specify that it solely consider applications filed during that time period under SB 350. California remains well behind its 2025 and 2030 TE goals. The COVID-19 emergency will only further undercut the development of a self-sustaining EV market – necessitating targeted investments now that can both help the State achieve its goals and support economic recovery in the jobs of tomorrow. Additionally, near-term utility applications can eliminate the start and stop of existing programs to provide market certainty and reduce expenses.

The critical change needed to consider applications filed between adoption of a Final TEF and approval of a utility TEP solely under SB 350 is necessary because the Draft TEF's proposed restrictions on pre-TEP applications are so severe that they effectively serve as a multi-year freeze on utility TE infrastructure investment; even accounting for the clarification that the Draft TEF does not limit applications before the adoption of the Final TEF.[4] Under the Draft TEF's proposed timeline these extensive restrictions will span from Quarter ("Q") 1 2021 to 2022 – a period of 12 to 24 months. The TEF should not limit investments during this critical time period to the discrete areas of resiliency, customers without access to home charging, medium and heavy-duty applications, and new building construction.[5] Nor should there be a

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1 ALJ Doherty March 24, 2020 email ruling.

2 *Id.*

3 *Id.*

4 *See* Tesla Comments at 2 ("it is concerning that Staff's proposed TEF could freeze any meaningful new programs and investment by the utilities in transportation electrification for anywhere from four to five years.").

5 Draft TEF at 44.

monetary cap set on near-term applications without an explanation of why such a cap is warranted.

At this early stage of market development all TE infrastructure investments should be considered "no regrets." TE infrastructure is needed now to support all aspects of the underdeveloped EV market, including light-duty, medium-duty, *and* heavy-duty vehicles in *all* charging locations – including workplaces to take advantage of midday renewables, multi-unit dwellings to support renters and those who live in condos and public charging for those who do not have at-home charging or travel on longer trips. It is simply too early to eliminate any market segments.

The Draft TEF correctly acknowledges that "given the nascent state of TE, there may be barriers and issues that may be appropriate for near-term IOU investment."[6] The Draft TEF misses the mark, however, by attempting to predict those barriers in this *nascent market* and then limiting utility investments to those predictions. In this immature and evolving market broad investments are needed now, not just after 2024. In fact, such investments are needed more now than in the future as the market develops.

Moreover, as noted, such a freeze would be particularly problematic given that the economic downturn from the COVID-19 emergency will further jeopardize the development of a viable EV marketplace. The clean energy industry has already been particularly harmed by the downturn.[7] TE infrastructure support is needed now to focus economic recovery efforts on forward-looking, clean energy jobs – to ensure that California does not let the crisis prevent the State from reducing its GHG emissions and developing a functioning and sustainable EV market.

In short, the COVID-19 emergency only confirms that the Final TEF should not effectively serve as an *ex-ante* freeze on applications until a TEP is adopted sometime in 2022 or later. In opening comments filed before the pandemic's impact arose, the vast majority of parties representing a wide range of interests –environmental groups, labor, automakers, EV Supply Equipment ("EVSE") providers, and others – all uniformly expressed their opposition to the

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6 Draft TEF at 43.

7 San Diego Union Tribune, *Report: Clean energy employment to drop 15%, group calls on government stimulus for the sector* (April 16, 2020), available at https://www.sandiegouniontribune.com/business/energy-green/story/2020-04-15/report-clean-energy-sector-employment-dropped-3-in-march-and-california-lost-20-000-jobs.

Draft TEF's pre-TEP application restrictions that constrain the size and scope of projects to minute pilots to predefined areas:

- The Draft TEF's process "result[ing] in no new significant utility investments until at least 2025" is "fundamentally incompatible with the intent of the rulemaking to streamline the Commission's existing regulatory process and facilitate the 'rapid scale-up of TE infrastructure.'"[8]
- "The timelines and processes created by the Draft TEF will harm the market in the near term, thereby undermining EV customer confidence and causing transportation electrification to suffer."[9]
- "The timeline contemplated in the Draft TEF could . . . unduly delay implementation of [EV] programs needed to help California hit its ambitious" EV goals by having a "three-year gap between now and the next full-scale utility program filings."[10]

These diverse parties all agree that, whether intended or not, the Draft TEF's extensive limitations are in contravention of SB 350 and will likely leave the State well short of its goals of 250,000 chargers by 2025 and five million zero-emission vehicles by 2030; all while failing to achieve needed State's GHG reductions.[11]

Such restrictions would be particularly harmful for SDG&E's service territory. Contrary to the Public Advocate Office's contention,[12] SDG&E does not have an approved or pending large public charging application before the Commission to address the need of future EV drivers who cannot charge at home. Indeed, SDG&E has been collaborating with local stakeholders to develop such a program. For instance, the San Diego Association of Governments ("SANDAG"), an entity with unique knowledge and responsibility for public policy in the local

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8 NRDC, CUE, Greenlots and Siemens, Enel X North America, and EVBox Comments at 1.

9 The Alliance for Automotive Innovation, Ford Motor Company, General Motors LLC, Hyundai Motor Company, and Kia Motors Corporation ("Joint Automakers") Comments at 1.

10 ChargePoint Comments at 1.

11 Greenlots and Siemens Comments at 1 ("It is well known that the state is well behind what is needed to achieve the state's 2025 and 2030 EV adoption targets, and that the status quo, therefore, is not an option.").

12 *See* Public Advocate Office's Comments at 14.

San Diego region, noted that SDG&E and SANDAG have been engaging in ways to exceed state goals to lower GHGs and meet regional goals and local climate action plans.[13]

By contrast, the few parties supporting the Draft TEF's extensive pre-TEP restrictions seem to be indifferent to the State meeting its 2025 and 2030 zero-emission vehicle and charging station policies and accelerating widespread EV adoption mandates. For example, TURN states that

> [e]lectrification of vehicles is not the only way to reduce emissions from the transportation sector. Public transportation and hydrogen vehicles may also play a role, as can higher fuel efficiency standards for gasoline vehicles. Housing placed closer to job centers such that vehicle miles traveled decreases would reduce emissions and likely reduce safety incidences as well.[14]

State policy and SB 350 are clear: widespread transportation electrification is needed to achieve the goals of the Charge Ahead California Initiative and widespread TE requires electrical corporations to increase access to the use of electricity as a transportation fuel. While public transportation, hydrogen vehicles, land use policies and reducing vehicle miles traveled also may help to reduce GHGs, widespread transportation electrification is still *required* by California law and policy. The Commission should remain focused on doing its part to accelerate TE in the state by reviewing and approving applications pursuant to SB 350.

TURN likewise states that "[t]o the extent the legislature does not implement policies and invest state funds to help meet the goals it has set out, and market forces are not sufficient to ensure goals are met, actual EV sales may not meet stated goals."[15] But the legislature has spoken – through SB 350. It ordered the Commission and electric utilities to propose, approve, and implement programs to accelerate TE adoption and meet state mandates.[16] In effect, by

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[13] SANDAG Comments at 2-3 (encouraging the Commission to continue to allow a variety of utility applications).

[14] TURN Comments at 6.

[15] *Id.* at 5.

[16] *See* Greenlots and Siemens Comments at 13-14 ("SB 350 . . . gives the responsibility to utilities to develop the right mix of programs to achieve 'widespread transportation electrification,' while the Commission is required to evaluate those program proposals based on the standards of review specified.").

supporting severe restrictions, TURN suggests that utilities and the Commission should ignore those SB 350 requirements.

SDG&E does not believe that all TE infrastructure in the state should be constructed by electric utilities. The utility role will evolve over time. But for California to meet the State's ambitious legal mandates to expand electric transportation, then utility-side infrastructure should be built by electric utilities subject to reasonable tariff rules adopted by the Commission without the need for charger-by-charger litigation. And electric utilities should be authorized to construct a reasonable proportion of customer-side infrastructure to satisfy state and regional climate objectives as well as to accelerate the development of a self-sustaining private market.

It is thus critical for the Commission to remove the Draft TEF's proposed extensive restrictions on applications filed between the adoption of a Final TEF and approval of a utility's TEP. The Final TEF should instead make clear that, consistent with state law, utility applications filed before the adoption of a utility TEP will solely be considered under existing statutory authority and Commission precedent. This clear and consistent guidance provides market certainty for vehicle manufacturers and charging station vendors, while underscoring that the State is continuing to meet its ambitious 2025 and 2030 TE goals – rather than instituting a freeze that will make achieving those mandates nearly impossible. The need for market certainty is particularly acute in light of the wide-spread economic impacts of the COVID-19 pandemic, loss of federal and state incentives for many consumers, and regulatory uncertainty as the federal government changes tailpipe emissions standards and seeks to revoke California's waiver under the Clean Air Act.[17]

Although SDG&E's believes that all applications submitted prior to the approval of TEPs be evaluated solely under SB 350, at a minimum, Section 5 should be substantially edited in the Final TEF to provide a less restrictive set of program areas. Specifically, Section 5 in the Final TEF should at least allow for any public, MD/HD, MUD, and/or workplace program applications without program size limitations. And if utilities submit proposals that align with the Staff Proposal preferences, the Commission should allow those proposals to be submitted via Tier 3

[17] *See California, et al. v. Chao, et al.*, Docket No. 19-cv-02826 (D.D.C, filed Sept. 20, 2019) (seeking an injunction against the Environmental Protection Agency and Department of Transportation's revocation of California's waiver that allows the State to set stricter tailpipe emissions standards than the federal government).

advice letter, with the Commission approving those advice letters within 12 months by approving or approving with modifications.

IV. THE DRAFT TEF'S OVERLY PRESCRIPTIVE AND CUMBERSOME TEP PROCESS SHOULD BE REVISED

As noted, SDG&E agrees that it is vital to coordinate TE investments across California to avoid duplicative or otherwise ineffectual investments. Yet as written, the Draft TEF fails to promote such coordination. As Greenlots and Siemens correctly identify, under SB 350, utilities are entrusted to propose applications and programs, with the Commission reviewing those proposals.[18] Under this widely accepted structure, California utilities are able to design and request programs that take into account local conditions, state and regional goals, planning objectives, and Commission policy direction.

By contrast, the Draft TEF would impose a prescriptive, cumbersome, stakeholder and Commission resource-intensive TEP process that places far too much emphasis on centralized planning, unknown outcomes, and incomplete proceedings.[19] Furthermore, the process envisioned by the Draft TEF is fundamentally brittle, stacking proceedings like dominos where delays in one would hold up utility TE investments for years; potentially resulting in failing to make needed investments in time to comply with state goals.

SDG&E appreciates the Commission's desire to engage in thoughtful planning to support the widespread electrification of California's transportation sector. Unfortunately, the constraints and litigation contemplated by the Draft TEF impose unnecessary delays and burdens on transportation electrification that will stifle the market and fall far short of local, regional and customer needs. SDG&E believes instead that utility TE investments should be guided primarily by planning and forecasting that already occurs at the local and regional level.

A. The Draft TEF Fundamentally Misunderstands the State of the EV Market

The Draft TEF attempts to address all current and future topics related to EV adoption and infrastructure, presuming that the Final TEF can establish a comprehensive framework to govern all utility TE investments for the next ten years. The EV market, however, remains "nascent" as the Draft TEF states – and will hopefully transform over the next decade. As

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[18] *See* Greenlots and Siemens Comments at 13.

[19] *Id.* at 7.

numerous parties recognize, it is not prudent or possible to plan ten years of infrastructure investments today to support what is likely to be a dramatically different TE market in 2031.

While it is reasonable to plan investments over the next five years, the subsequent five years are far less certain.[20] As ChargePoint notes

> [I]t is unlikely that detailed IOU budgets, program priorities, investment strategies and program designs can be developed with any degree of accuracy in a 10-year plan. The EV and EVSE markets are expanding and evolving rapidly in response to innovations in technology and shifts in customer and driver needs and preferences. The Commission should avoid attempting to predict or regulate market growth, but instead establish a flexible regulatory framework that ensures that innovation and the industry are driving progress in the market, not the IOU plans.[21]

Investments that are appropriate a year from now may not be five years from now, and investments that were once not needed may become necessary. The Draft TEF is not flexible enough to adjust to such market changes.

Instead, the Draft TEF's ten-year planning horizon and inflexible requirements are rooted in a far-too optimistic belief in the EV market's maturity and the availability of data to support those assumptions. Although all stakeholders look forward to a day where the market is mature and buyer demand for EVs is high, the market is not there yet – evidenced by the comments of those who *participate* in that market. As the Joint Automakers state, industry investment by car manufacturers is not enough to ensure increased market penetration and achieve state EV deployment goals.[22] The Joint Automakers add that "[n]ear-term utility engagement . . . [in areas] including [a] large-scale infrastructure rollout for light-duty vehicles-is essential to build[ing] and maintain momentum" to create a sustainable EV market.[23] Tesla likewise notes that TE in California remains "relatively immature,"[24] with Greenlots adding that the EV market "fundamentally lacks" a sufficiently large number of motivated buyers to produce a mature

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[20] CALSTART Comments at 3.

[21] ChargePoint Comments at 7.

[22] *See* Joint Automakers Comments at 5

[23] *Id.* at 3.

[24] Tesla Comments at 6.

marketplace.[25] Indeed, even TURN admits that light-duty EVs may be farther along than the infrastructure needed to support them.[26] The development of a mature EV market will only be further delayed by the COVID-19 emergency, the loss of incentives, and weakening of federal support for transportation electrification.

The Draft TEF asks the utilities to create detailed TEPs that span through at least 2031. Yet if the last ten years are any guide this long-range planning requirement will not provide useful guidance. The nascent nature of the EV market and rapid rate of change in the California utility sector makes the ten-year planning requirement for the TEPs counterproductive and overly inflexible. Ten years ago, there was not a single mass market long-range EV on the market and the IOUs were the dominant energy procuring load serving entities in California; today automakers offer dozens of EV models. The future will depend on many variables that simply *cannot be predicted*.

The Final TEF should thus provide that planning should be done in five-year increments. Planning documents should avoid setting overly prescriptive long-term plans and instead be done in five-year increments.[27] Those plans should be developed in coordination with state agency planning – as well as with local planning agencies such as SANDAG to reflect regional needs. Any planning should be flexible enough to allow for delays in planning processes at other agencies or other unanticipated events.

B. The Draft TEF Makes TEF Investments Too Reliant on Other Outcomes

In addition, the Draft TEF creates a web of interdependent proceedings and efforts, many of which are either new or are being conducted by other agencies outside the control of the Commission. The Draft TEF's proposed dependence on other proceedings for planning creates the risk that delays in one proceeding could have a cascading effect that delays utility investments in TE infrastructure, almost certainly causing California to miss its TE goals.

Specifically, the Draft TEF ties Commission proceedings to ongoing and future CARB and CEC efforts. Other state agencies' analysis should help inform utility TEPs. But requiring

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[25] Greenlots and Siemens Comments at 11.

[26] TURN Comments at 14.

[27] ChargePoint Comments at 7.

that utility TE planning incorporate specific data sources created by other agencies increases the risk of delay into the TEF process.

For example, the Staff Proposal requires that utility TEPs incorporate infrastructure needs identified in the CEC's Infrastructure Deployment Strategy ("IDS").[28] The IDS is yet to be complete and its expected release date is only a year before the anticipated due date for the utility TEPs. SDG&E certainly hopes that the IDS is released as expected because it will provide informative data. Yet the report could be delayed, run into modeling errors, or focus on areas that are less informative for TEPs (*i.e.*, the entire state rather than the regional focus required for utility planning).

Similarly, the Draft TEF relies on CARB's Mobile Source Strategy ("MSS") to guide the scope and market segments to focus utility investments. The MSS is expected to be updated by January 1, 2021; again, less than a year before the utilities are required to file their TEPs. Delays at CARB or the CEC could force the choice between either not including the IDS and MSS or delaying the utility TEPs. Because of the Draft TEF's proposed rigid biannual application cycle, this in turn could delay all utility investments in TE infrastructure.

The Draft TEF's overreliance on other process at the expense of flexibility extends beyond other agency proceedings. For example, the Draft TEF describes the need for a novel Market Maturity Assessment to determine, among other issues, in what segments utilities should be permitted to own TE infrastructure. Yet the Market Maturity Assessment proposed in the Draft TEF has commenced. Nor does the Draft TEF define the full scope of the Market Maturity Assessment. It is unclear who will conduct the Market Maturity Assessment, on what schedule, or what the outcome of that assessment will be.

To assess market maturity, this requirement presumes that utilities have sufficient knowledge or information of auto manufacturer plans, third-party supply chains, and the barriers to private capital investments. But despite admitting that the assessment may require data that is not collected by the Energy Division, the Draft TEF does not provide what will happen if third parties refuse to share or do not have access to sufficient information to compete the Assessment. Yet despite these obvious deficiencies the Market Maturity Assessment is presented as a required

[28] Draft TEF at 34.

input for the utilities TEPs[29] – even though it is seemingly unlikely that this assessment will be completed in time for the utilities to meaningfully incorporate it into their TEPs. Once again, the complex interdependent proceedings proposed by the Draft TEF forces the choice to either disregard costly analysis, or to delay the entire process.

Regardless of the utilities' ability to complete these novel assessments, the Draft TEF presupposes that the maturity of TE market segments is a fixed state; or at least one that can be safely reassessed every four years. This is incorrect. Some TE market segments may not require utility investment as new private investors enter the market. Others may appear mature but need renewed utility investment to meet state goals due to market failures or economic shocks. These market changes may not follow the four-year TEP update schedule proposed in the Draft TEF. The Commission should instead assess whether utility investments are reasonable in specific sectors through individual program applications; not TEPs that will be updated only twice before 2030.

C. The Draft TEF is Cumbersome, Overly Prescriptive, and May Stifle Innovation

Complying with the Draft TEF's proposed process will impose a substantial burden on both utility and Energy Division staff. Much of this time will be spent developing and reviewing plans in response to an overly prescriptive planning process – time that is not being spent accelerating transportation electrification or reacting quickly to changing market conditions. And consumers who do not see TE infrastructure will purchase internal combustion vehicles that may stay on the road for a decade or more.

The Draft TEF's procedural schedule and mandated updates to planning documents will be difficult to comply with and likely delay utility investments. For example, the Draft TEF postulates that Energy Division Staff will update the Final TEF every five years, starting in Q1 2025. Utilities will then submit their post-TEP applications in Q1 2023, which would optimistically be approved in Q1 2024. Given the time necessary to stand up new programs, it is unlikely those programs will generate any useful data for Energy Division to incorporate into their 2025 TEF update.

[29] *Id.* at 39.

This situation is further complicated by the litigation process envisioned in the Draft TEF for multiple utility TEFs, TEPs and program applications. If the Commission is unable to simultaneously evaluate three large TE infrastructure applications within a year, a final decision on these three applications would not be issued in mid-2024 or later. This means that adherence to the Draft TEF's schedule requires the Commission to simultaneously consider three utility applications while updating the TEF. This, in turn, requires utilities to contemporaneously incorporate the updated TEF's guidance in their subsequent TE infrastructure applications, which are also due in Q1 2025.[30] If Energy Division Staff's update of the TEF is not issued within the prescribed window, utilities will either have to base their applications on the five-year-out-of-date 2020 Final TEF or wait to file an application until 2027 – three years before California aims to have five million zero-emission vehicles on the road.

The Draft TEF's other requirements are similarly burdensome. For instance, Appendix C's TEP Completeness Check proposes an extremely detailed list of components to be included in a utility TEP. In practice, this results in a process that directs the utility TEPs to address items simply for the sake of addressing those items. If any one of these 14 areas and dozens of sub-questions are missed, the utility TEP may be deemed incomplete and returned for revisions – potentially causing the IOUs to miss the Q1 2023 application deadline and delaying post-TEP utility TE applications until halfway through the decade. It is prudent to examine these directives to evaluate the value of the process verses the cost of gathering the information. SDG&E provides specific recommendations on how the Draft TEF Appendix C can be streamlined in Appendix A to these reply comments.

The Draft TEF's overly prescriptive nature extends beyond its procedural schedule to its view of market transformation more generally. Transportation electrification is not dispatched by utility planners. It is driven by customers who make the choice to drive electric vehicles, and that choice is driven to a large extent by the availability of EV charging equipment. While customer demand must be balanced against the cost to ratepayers, overly prescriptive planning requirements should not take precedent over increasing customer use. As Greenlots noted, a self-sufficient EV market can only be created once there are enough EV customers to create self-

[30] This schedule also asks utilities to litigate their 2025 infrastructure applications and update their ten-year TEPs simultaneously.

sustaining demand.[31] So the focus of utility investments should be facilitating those new EV drivers.

Yet the Draft TEF appears to rely too heavily on non-customer demand driven inputs. For example, while the existing Integrated Capacity Analysis ("ICA") maps may prove to be useful tools to evaluate where new TE load could be added without the need for grid upgrades they should not be relied on too heavily or in a vacuum.[32] The more important information should be items such as where customers desire or need EV charging to encourage their adoption of zero-emission vehicles including at their homes, businesses, and locations where drivers congregate. Although it may be ideal to site charging infrastructure at locations where there is excess grid capacity, the primary criteria for where charging is located must be where customers want it, not grid conditions that may be temporary.[33]

V. THE FINAL TEF SHOULD AUTHORIZE SIMULTANEOUS TEP AND PROGRAM FUNDING AND APPROVE A NEW TARIFF FOR UTILITY-SIDE EV INFRASTRUCTURE

The Final TEF should thus recognize that the EV market remains unable to sustain itself and emphasize the need to respond to evolving conditions. The presumption should be that the market is undeveloped until a time at which the evidence indicates that it has matured. This is expected to occur on differing timelines based on market segment and vehicle class. And even then, the question should be whether the markets are accelerating at a pace to ensure widespread adoption to meet California's GHG and EV goals. To do so, as described below, a Final TEF should authorize a two-part framework for future utility TE activities:

1. A single filing that includes a five-year TE plan and programs, including necessary funding, to achieve the objectives in that plan, including local/regional needs, and in furtherance of 2025 and 2030 state goals; and
2. A utility-side EV infrastructure tariff that recognizes certain distribution infrastructure deployment activities as core utility business.

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[31] Greenlots and Siemens Comments at 11.

[32] Draft TEF at 2.

[33] Enel X Comments at 6.

These two components, taken together, provide a thoughtful and strategic basis for planning TE infrastructure rollout, promoting customer EV adoption and enabling a self-sustaining private market.

A. Simultaneous Planning and Application Process

SDG&E agrees that utility TE investments should not be evaluated solely through incremental program applications and that proactive planning is warranted. To allow the TEPs to be useful tools that do not unduly delay utility investments, a utility's five-year plan should be submitted concurrently with an application to fund those programs. Numerous parties note that requiring the sequential approval of TEPs followed by separate, post-TEP applications only increases litigation without facilitating more TE investment. As Greenlots states

> Said frankly, the draft TEF does the opposite of streamlining the regulatory process, a goal articulated in the December 19, 2018 Order Instituting Rulemaking, stacking years of regulatory process and protracted litigation as the TEF and subsequent utility [TEPs] are developed, reviewed and approved, which then only puts stakeholders back at square one where utilities can once again file applications.[34]

The Draft TEF presumes that the Commission can simultaneously review three large TE infrastructure applications within approximately one year – all while updating the TEF. As noted, any delay in developing and litigating the TEPs would cause utilities to miss the Q1 2023 post-TEP application submission deadline, potentially causing utilities to have to wait an additional two full years to submit post-TEP applications. Even if the timeline was strictly followed and the Q1 2023 submission deadline was made more flexible, it would still be more than a year before any application could be filed. As noted, this is particularly problematic in the San Diego region because SDG&E has not yet proposed a large-scale public charging program.[35]

Combining submittal of TEPs and program funding applications will help reduce the litigation burden for parties – particularly smaller parties – and avoid unnecessary delays to the deployment of EV infrastructure. As the Draft TEF itself recognizes, program funding naturally flows from the planning process.

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[34] Greenlots and Siemens Comments at 6.

[35] *Compare* Application 18-06-015, Application of Southern California Edison Company (U338E) for Approval of its Charge Ready 2 Infrastructure and Market Education Programs (June 26, 2018).

> [P]lans that include projected infrastructure needs in the IOU service territories, and include the IOU's investment strategies and specific targets based on priority market segments, estimated budgets to support expected IOU TE programs, and descriptions of programs the IOUs may propose to achieve the stated targets.[36]

The Draft reiterates that within TEPs the utilities should identify strategies, barriers, specific market segments, the targets that the utilities are aiming to achieve, justification for the utility role, and associated budgets.[37]

These are the exact types of items that would go into a funding application. Indeed, utilities would address many of the same items in both the TEP and the subsequent application; making it a natural fit to combine into a single filing. By contrast, the two-step process as proposed would add delay, is burdensome to parties, and does not result in sufficient additional value as it will likely result in the litigation of many of the same issues twice.

Further, the Commission can consider and modify the TEP and funding application in unison. The Commission often approves proposals with modifications. For example, if the Commission determines that utilities should not invest in single-family residential infrastructure it can make those modifications to the TEPs to provide future guidance, while simultaneously denying that component of the utility's funding application, if included. This modification to the Draft TEF will allow the Commission to streamline a protracted litigation process, indicate its direction for future filings, approve funding applications, and not delay California's ability to meet EV adoption goals and GHG reduction mandates.

Finally, the Final TEF should preserve the ability granted to utilities by SB 350 to propose *ad-hoc* applications if they comply with SB 350's criteria. Five-year applications are unlikely to foresee all technological developments, market changes, and state policy directives, reinforcing the value of the ability for utilities to propose *ad-hoc* applications when the need arises (per SB350).

B. EV Infrastructure Tariff

The Final TEF should also authorize the utilities to file utility-side EV infrastructure tariffs. The Final TEF's goal, in part, is clarifying the role of electric utilities in the TE market.

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[36] Draft TEF at 18.

[37] *Id.* at 24.

As electric infrastructure providers, electric utilities must play a long-term and consistent role in providing TE infrastructure.

Yet, as parties note, the current start-stop model of providing core TE infrastructure through incremental utility programs delays deployment and discourages accelerated customer adoption.[38] As California transforms its transportation sector to accommodate widespread transportation electrification, the fundamental role of electric utilities is clearly rooted in its duty to serve. Just as electric utilities have a duty to serve residential, commercial, and other customers, the role of electric utilities in transportation electrification is to provide safe and reliable utility-side infrastructure. Utilities should thus be able to establish tariffs that permit utilities to design, construct, own, and maintain the utility-side "make-ready" for all non-single-family residential home EV charging deployments.[39]

The utility-side make-ready model is supported by numerous parties in this proceeding,[40] and the Final TEF should establish it as a core utility role. The universal service provided by such a utility-side make-ready tariff would provide a level playing field for private investment and support SB 350's goals. By providing the utility-side make-ready to all customers outside of single-family homes, this tariff would stimulate innovation and competition – enabling options in customer-side equipment, attract private capital investments, and create high-quality jobs for Californians.[41] These dependable, high-quality jobs that will be created by this tariff are particularly vital today, amidst the widespread economic disruptions caused by the COVID-19 pandemic.

1. Description

Under a Utility-Side EV Infrastructure Tariff ("EV Infrastructure Tariff"), SDG&E would design, install, own, and maintain the make-ready infrastructure upstream of the customer meter. The utility-owned make-ready infrastructure may include, but is not limited to, the new

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38 *See, e.g.*, Green Power Institute Comments at 15.

39 The make-ready, inclusive of both the utility and customer-side make-ready, is defined as the "service connection and supply infrastructure to support EV charging comprised of the electrical infrastructure from the distribution circuit to the stub of the Electric Vehicle Supply Equipment." *See* Decision 18-05-040 at 6.

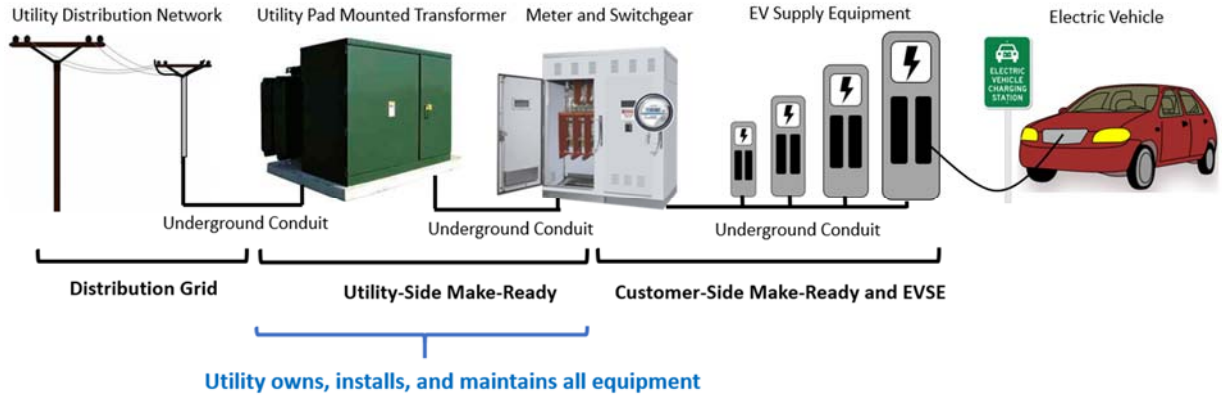
40 *See, e.g.*, ChargePoint Comments at 2.

41 SB 350, Stats. 2015-2016, Ch. 547 (Cal. 2015).

utility service connection, transformer, conductor, connectors, and conduit up to and including the electric meter, as well as civil construction work in compliance with relevant regulations.

Under the EV Infrastructure Tariff, SDG&E would accept applications for EV charging deployments from third parties in its service territory – which may include homebuilders, charging network operators, EV fleet operators, and commercial property owners – and would apply the tariff to all separately metered EV charging installations in SDG&E service territory except for those installed in single-family homes. SDG&E would perform the associated work to install the utility-side make-ready – including trenching and repaving – and own, operate and maintain the utility-side make-ready infrastructure.

EV Infrastructure Tariff



The EV Infrastructure Tariff would not authorize SDG&E to own or install any equipment beyond the customer meter, including the EVSE. Any utility ownership of infrastructure on the customer-side of the meter would be authorized through the five-year TE applications through the Commission regulatory process. The customer would be responsible for and commit to procuring all customer-side equipment necessary to provide EV charging service at EV Infrastructure Tariff sites, in the absence of another utility TE program.

2. Marketing

SDG&E would market the EV Infrastructure Tariff to all non-single-family residential customers. If approved, SDG&E will make potential customers aware that the utility is able to cover the utility-side make-ready costs for eligible EV charging deployments through existing resources like account executives, call center, and marketing and outreach efforts. SDG&E would also partner with local community organizations to spread information about the EV

Infrastructure Tariff, particularly in Disadvantaged Communities and other low or middle-income communities, and with third-party charging networks and installers for business development efforts.

VI. CONCLUSION

SDG&E respectfully requests that the Draft TEF be modified to move from a top-down, overly prescriptive, 10-year planning process to a more efficient and streamlined method that can adapt to market changes, accommodate local needs, and leverage regional planning efforts to meet the State's 2025 and 2030 goals. The Commission's clarification that applications filed before a Final TEF is adopted will solely be considered under SB 350 is certainly welcomed. The Final TEF should similarly remove all pre-TEP application restrictions, authorize utilities to adopt EV-infrastructure tariffs for utility-side infrastructure, and permit a single filing that contains both a five-year plan and application for funding.

Respectfully Submitted

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April 27, 2020

APPENDIX A

SDG&E'S PROPOSED REVISIONS TO THE DRAFT TEF'S APPENDIX C

APPENDIX C – TEP COMPLETENESS CHECKLIST
Alternative Recommendations

The TEP Completeness Checklist should serve as a guide regarding the categories of information that utilities should address in their TEP. If a utility considers an item on the checklist to be unnecessary, outside the scope of its TEP, or overly burdensome and costly to compile then the utility should provide justification for why the item is not being addressed. If a utility determines that an additional item should be added to the checklist for its TEP then, similarly, it should explain why. Failure of a utility to include a checklist item in its TEP should not disqualify the TEP from being considered on its merits.

Section Number	Suggested Edits	Proposal & Justification
1	1.~~b. An itemized list and description of potential T&D upgrades necessary to accommodate projected EV load, particularly in already grid-constrained areas~~	**Recommendation: Delete** **Justification:** It would be difficult for the utilities to provide an accurate and meaningful response to this question, as the utilities do not track load in this manner. Rather, utilities consider multiple factors, including EV load, when determining if an upgrade to the grid is needed. Attempting to evaluate EV load in a standalone analysis would require significant time and resources and would compete with other existing efforts to analyze load on the grid. It is not known where EVs and EV charging will be located over time. The market will not locate infrastructure solely based on grid needs; they will locate on customer and market needs.
1	1.~~c.ii. What portion could be addressed through Rule 15/16, potential tariff modifications and/or a more standardized make-ready budget approval process?~~	**Recommendation: Delete** **Justification:** The TEP should not speculate on future rule changes or tariffs which may or may not occur. Responses would be highly speculative and unlikely to provide value.

2	2.a. Using the IOUs' ~~ongoing Load Research Reports, and other~~ resources such as the CEC's IEPR, provide anticipated load shapes from residential EV charging on an hourly and seasonal basis, to the extent the load shapes are available in previously submitted sources.	**Recommendation: Edit** **Justification:** The utility load research reports have been replaced by the EV infrastructure cost report, which no longer includes load shapes. The utilities should not be required to create new load shapes but should share previously submitted load sources.
2	2.b. Using data collected from the MD/HD SB 350 programs, the Load Research Reports and other resources such as the CEC's IEPR, provide anticipated sample load shapes from commercial customers' EV charging on an hourly and seasonal basis. If available, in accordance with customer confidentiality rules, within other resources (such as the CEC's IEPR) the IOU's should reference ~~with~~ specific load shapes estimated for (i) Transit Agencies, (ii) Large commercial fleets, (iii) Ports, airports, and warehouses that may have multiple TE use cases, and (iv) high-powered DCFC charging stations.	**Recommendation: Edit** **Justification:** In planning for the growth of distributed energy resources and load, utilities do not distinguish different customer classes nor types of load when defining projected system needs and associated distribution grid upgrades. Further, the value of providing this information is not apparent and could be burdensome to compile. There are too many different types of variables that might make one transit agency, commercial entity, etc. different than another in the same category and therefore impossible to have "anticipated load shapes" for anything other than a small sample of these types of customers. For example, TEPs could have one example load shape for transit agencies but it shouldn't be assumed all transit agencies would have the same or even similar load shapes.
2	~~2.c. Project anticipated commercial TE load associated with meeting existing regulatory and legislative directives~~	**Recommendation: Delete** **Justification:** This request appears to be overly burdensome, as it would require each utility to review all regulatory directives for multiple commercial entities and project load over a period

		of five years. This type of research project is more appropriately conducted on a state level by either a state agency, education or research organization.
3	3. a. Identify which priority market segments the IOU's programs will focus on over the next five ~~and ten~~ years, with justification for the strategies	**Recommendation: Edit** **Justification:** TEP should be based on five years, consistent with utility recommendations.
3	3. c. Expected pilot- and larger-scale program proposals that will be used to achieve the IOU's strategies over the next five ~~and ten~~ years	**Recommendation: Edit** **Justification:** TEP should be based on five years, consistent with utility recommendations.
3	3.d Estimated total cost of providing all the TE infrastructure needed to support the IOU's forecasted EV adoption within its proposed TE programs (i) Cost of infrastructure on the utility-side of the meter that is requested in the program application (2) cost of customer-side infrastructure, (3) estimated infrastructure installation costs and O&M expenses, and (iv) expected total ratepayer costs and how much participating customers would be expected to contribute	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **Delete 3.d.** However, if the Final TEF does adopt a streamlined one-step process - **proposed edits should be adopted.** **Justification:** This information is specific to the program application. This requirement should be limited to utility programs. Utilities do not know where EVs and EV charging will be located over time by non-utility actors. The market will not locate infrastructure based on grid needs; they will locate in response to customer and market needs. Further, it would be difficult for the utilities to provide an accurate and meaningful forecast of non-program related needs because utilities consider multiple factors, including EV load, when determining if an update to the grid is needed.

3	~~3.e Projected distribution upgrade costs needed to support vehicle electrification. (i.) Percentage of the overall costs needed to support the IOU's EV adoption forecast the 10-year plan would seek to recover from ratepayers, (ii) budget estimates for each of the IOU's planned large-scale programs, (iii) estimated costs savings that could be achieved if EV load is optimally managed, such as shifting EV charging to periods that provide grid benefits, (iv) estimated distribution upgrade costs that could be incurred if EV charging is not managed in a manner that benefits the grid.~~	**Recommendation: Delete** **Justification:** This information is speculative and difficult to quantify. Distribution upgrades are driven by all electrical load including EV load and building load. It is difficult, if not impossible, to determine where EV load will manifest over time. Additionally, the utilities do not know where EVs and EV charging will be located over time. The market will not locate infrastructure based solely on grid needs; they will locate in response to customer and market needs.
3	3.f. Anticipated program requirements for each separate proposed program i. Participation criteria ii. Vendor specifications for each program's equipment needs, including strategies to harmonize procurement criteria across similar programs in various IOU service territories iii. Strategies to secure matching funding 1. Partnerships with private entities 2. Alignment with other regulatory efforts and incentive programs iv. Data collection, reporting, and evaluation plans	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **Delete 3.f.** However, if the Final TEF does adopt a streamlined one-step process - **no edits requested.** **Justification:** This information is specific to the program application.
4	4.a. ~~Address~~ Describe proposed strategies from other proceedings or when appropriate detail new strategies to improve grid and community resiliency including: i. Mitigating any climate change or natural disaster-related impacts on TE infrastructure ii. Utilizing TE infrastructure to improve the resiliency of communities, including ESJ communities ~~i. Identify infrastructure and IT system upgrades~~	**Recommendation: Edit and Delete** **Justification:** 4.a. – **Edit** Added clarification. 4.a.ii.i – **Delete** Overly prescriptive and does not allow for inclusion of other important efforts that would improve resiliency. 4.a.ii.ii –**Delete** Rebuilding after natural disasters should be addressed in a holistic

	~~necessary to enable V2B functions~~ ~~ii. Ensure areas being rebuilt after natural disasters include sufficient infrastructure to meet the regions' current and future TE load~~ iii. Demonstrating collaboration with emergency service organizations and local communities iv. Preparing for events that can impact the ability for the IOUs to supply customers with electricity as a transportation fuel.	manner which includes safety, reliability, supporting TE load, building load and other electrical needs as well as water, sewer and any other services needed to address such events.
5	5. a. Identify which ~~program-specific~~ targets and metrics from the CPUC adopted final Scorecard the IOU is prioritizing in its initial TEP and describe the strategies the IOU will employ to achieve these	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application - **5.a. should be modified as suggested**. If the Final TEF does adopt a streamlined one-step process – **5.a. should be retained as written**. **Justification:** This information is specific to the program application.
5	5.c. Propose an overarching evaluation budget within their TEP	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **Delete 5.c.** However, if the Final TEF does adopt a streamlined one-step process - **no edits requested.** **Justification:** This information is specific to the program application.
5	5. d Propose evaluation strategies in each program and pilot application to ensure every investment is designed to meet targets and track metrics from the CPUC adopted final Scorecard	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **Delete 5.d.**

		However, if the Final TEF does adopt a streamlined one-step process - **no edits requested.** **Justification:** This information is specific to the program application.
5	5.e.~~Include cost comparison data from at least two third-party sources when submitting pilot and program applications~~	**Recommendation: Delete** **Justification:** It is unlikely that third-party sources will agree to provide cost-comparison data for public purposes, as vendors generally consider pricing information to be confidential. It may be difficult to find projects with the same standards/requirements – comparing dissimilar efforts would result in incomplete information. Further, cost estimates are generally only valid for a limited period of time. Therefore, the utilities should not be held to cost data that is likely to be multiple years old, by the time the program applications are approved.
6	6.c. Seek input from ESJ communities and clearly incorporate the feedback into TEPs~~, program applications and advice letters~~	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **6.c. should be modified as suggested**. If the Final TEF does adopt a streamlined one-step process –**6.c. should be retained as written**. **Justification:** This information is specific to the program application.
7	7.b. Propose strategies to collaborate with workforce development groups to support additional training that may be needed for contractors and electricians. ~~partner with the California Workforce Development Board to ensure any additional training is available to all otherwise eligible contractors and electricians~~	**Recommendation: Edit** **Justification:** Revise to expand collaboration opportunities.

APPENDIX C – TEP COMPLETENESS CHECKLIST
Alternative Recommendations

9	9.a. Describe any new rates to be proposed over the next ~~10~~ 5 years to follow the rate design principles described in Section 9.1 ~~i. Include an evaluation of current EV rates in California and elsewhere~~ ii. Propose a schedule for periodically evaluating EV rates	**Recommendation: Edit and Delete** **Justification:** **9.a. – Edit** TEP should be based on five years, consistent with utility recommendations. **9.a.i. – Delete** Overly broad requirement that will result in a time/resource intensive effort with low to unknown value.
9	9.c. Describe any programs aimed at creating value from EV-specific load management ~~i.Explain who would be eligible to recover the value, and how that value would be passed to the eligible entity(ies)~~ ii.Discuss how EV-specific rates will align with other load management and demand response programs	**Recommendation: Delete 9.c.i.** **Justification:** Requirement is unclear, speculative and it is unknown how this would be calculated.
10	10.b. Include how TE program costs will be recovered from the appropriate customer class(es)	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **Delete 10.b.** However, if the Final TEF does adopt a streamlined one-step process - **no edits requested.** **Justification:** This information is specific to the program application.
11	11.a. Discuss potential partnership opportunities on a portfolio-wide ~~and program-specific scale~~	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **11.a. should be modified as suggested**. If the Final TEF does adopt a streamlined one-step process –**11.a. should be retained as written**. **Justification:** This information is specific to the program application.

APPENDIX C – TEP COMPLETENESS CHECKLIST
Alternative Recommendations

12	12.b. Include metrics to show how their TEPs ~~and program(s)~~ will provide incremental air quality improvements that contribute to helping the region achieve the attainment goals of the SIP	**Recommendation:** If the Final TEF does not combine the TEP application with the program funding application – **12.b. should be modified as suggested**. If the Final TEF does adopt a streamlined one-step process –**12.b. should be retained as written**. **Justification:** This information is specific to the program application.
12	12.e. Designate staff time to participate in the regional EV Coordinating Councils within their service territories, when available and applicable.	**Recommendation: Edit** **Justification:** EV Coordinating Councils are not available within each of the utility jurisdictions; SDG&E is not aware of or able to locate an EV Coordinating Council with the service territory. Further, it is unclear if the existing council, if it exists, is open to utility participation.
12	12.f. Evaluate opportunities to provide information and training to local officials to support implementation of "PEV Readiness" plans, including adoption of local "Reach Codes" to provide increased TE infrastructure ~~and training local code officials.~~	**Recommendation: Edit** **Justification:** Training local officials is outside of utility core competency/roles.
13	Evaluate each of the following priority segments and opportunities ~~identified in the TEF~~ reflected in subsections a-e, and any new segments that deserve consideration	**Recommendation: Edit** **Justification:** Need to clarify which segments should be evaluated.
13	13.E (new) Strategies to provide charging to customers without access to home charging, such as priority light-duty DCFC	**Recommendation: Added Requirement** **Justification:** Should include information on strategies to serve customers without access to home charging.
14	14.a Propose ~~a single budget and~~ an overarching ME&O plan and budget within the TEP focused	**Recommendation: Edit and Delete**

	on TE programs, EV rates and EV charging behavior ~~and the electric grid~~ (i)Where feasible, the IOUs should coordinate their outreach about EV charging behavior and its interaction with grid reliability across IOU territories ~~(ii) the IOUs should consider budgeting for a third-party administrator to implement this effort~~	**Justification:** Edited to provide clarity, add a reference to program-specific ME&O and remove the reference to the ME&O for the electric grid, as this seems redundant with ME&O for EV charging behavior. If the Final TEF does not combine the TEP application with the program funding application – budget requirements should be deleted. If the Final TEF does adopt a streamlined one-step process – budget information should be retained with requested edits. 14.a.ii. – Delete Utilities should manage their specific ME&O programs and budgets, but should collaborate to drive consistency.

Appendix C – Transportation Electrification Plan (TEP) Completeness Checklist

Energy Division staff recommends that the CPUC direct the IOUs to incorporate the following information in their TEPs. This checklist will be used as guidance on items to be included in the TEPs. ~~evaluate whether the TEP is complete, and if the CPUC determines that a TEP is incomplete, it will be returned to the IOU with an itemized list of any missing items. If an initial TEP filing is rejected, the assigned commissioner and/or the assigned administrative law judge(s) would provide the IOU with a timeframe for remedying any issues that were not appropriately addressed and require a new filing by a specific date.~~

Energy Division staff recommends that the CPUC direct the IOUs' ~~10~~5-year TEPs to address the following, at a minimum:

1. A forecast of EV adoption and estimates of TE infrastructure deployment needs within the utility service territory, by year. This forecast should include, at a minimum:
    a. Research on commercial and residential customer EV adoption rates within their service territory
        i. Identify any geographic regions and/or cities that have high expected EV adoption
    ~~b. An itemized list and description of potential T&D upgrades necessary to accommodate projected EV load, particularly in already grid-constrained areas~~
    ~~c.~~b. How much TE infrastructure the IOU anticipates building to enable the projected levels of EV adoption
        i. What portion of this projected infrastructure build out does the IOU propose to own and operate itself?
        ~~ii. What portion could be addressed through Rule 15/16, potential tariff modifications and/or a more standardized make-ready budget approval process?~~
2. Projection of incremental TE load by customer class and site type
    a. Using the IOUs' ~~ongoing Load Research Reports,~~ [397] ~~and other~~ resources such as the CEC's IEPR, provide anticipated load shapes from residential EV charging on an hourly and seasonal basis, to the extent the load shapes are available in previously submitted sources.
    b. Using data collected from the MD/HD SB 350 programs, the Load Research Reports and other resources such as the CEC's IEPR, provide anticipated sample load shapes from commercial customers' EV charging on an hourly and seasonal basis. If available, in accordance with customer confidentiality rules, within other resources

(such as the CEC's IEPR) the IOUs should reference ~~with~~ specific load shapes estimated for:

i. Transit agencies
ii. Large commercial fleets
iii. Ports, airports, and warehouses that may have multiple TE use cases iv. High-powered DCFC charging stations

~~c. Project anticipated commercial TE load associated with meeting existing regulatory and legislative directives[398]~~

3. TE Strategies
   a. Identify which priority market segments the IOU's programs will focus on over the next five ~~and ten~~ years, with justification for the strategies
   b. Portfolio-wide targets that the strategies will be used to achieve.
   c. Expected pilot- and larger-scale program proposals that will be used to achieve the IOU's strategies over the next five ~~and ten~~ years
   d. Estimated total cost of providing all the TE infrastructure needed to support the IOU's forecasted EV adoption within its proposed TE programs
      i. Cost of infrastructure on the utility-side of the meter that is requested in the program application ii. Cost of customer-side infrastructure
      iii. Estimated infrastructure installation costs and O&M expenses
      iv. Expected total ratepayer cost, and how much participating customers would be expected to contribute **[If the Final TEF does not combine the TEP application with the program funding application – Delete 3.d.; However, if the Final TEF does adopt a streamlined one-step process - proposed edits should be adopted.]**

~~e. Projected distribution upgrade costs needed to support vehicle electrification i. Percentage of the overall costs needed to support the IOU's EV adoption forecast the 10-year plan would seek to recover from ratepayers~~
~~ii. Budget estimates for each of the IOU's planned large-scale programs~~
~~iii. Estimated cost savings that could be achieved if EV load is optimally managed, such as shifting EV charging to periods that provide grid benefits~~
~~iv. Estimated distribution upgrade costs that could be incurred if EV charging is not managed in a manner that benefits the grid~~

~~f.~~e. Anticipated program requirements for each

separate proposed program i.Participation criteria
ii. Vendor specifications for each program's equipment needs, including strategies to harmonize procurement criteria across similar programs in various IOU service territories
iii. Strategies to secure matching funding
1. Partnerships with private entities
2. Alignment with other regulatory efforts and incentive programs iv.Data collection, reporting, and evaluation plans **[If the Final TEF does not combine the TEP application with the program funding application – Delete 3.f.]**

~~g.~~f. Include descriptions of any LCFS-funded programs and identify how the programs funded with LCFS credit revenue will contribute to the IOU's overall TE strategy and contribute to its TE targets and goals

~~h.~~g. Anticipated program goals, targets, and metrics

4. TE and Resiliency
   a. ~~Address~~ Describe proposed strategies from other proceedings or when appropriate detail new strategies to improve grid and community resiliency including:
      i. Mitigating any climate change or natural disaster-related impacts on TE infrastructure
      ii. Utilizing TE infrastructure to improve the resiliency of communities, including ESJ communities
         i. ~~Identify infrastructure and IT system upgrades necessary to enable V2B functions~~
         ii. ~~Ensure areas being rebuilt after natural disasters include sufficient infrastructure to meet the regions' current and future TE load~~
      iii. Demonstrating collaboration with emergency service organizations and local communities
      iv. Preparing for events that can impact the ability for the IOUs to supply customers with electricity as a transportation fuel.
   b. Coordination with other IOU resiliency efforts, including but not limited to, R.19-09- 009 and R.18-12-005.
5. Targets, Metrics, and Reporting
   a. Identify which ~~program-specific~~ targets and metrics from the CPUC adopted final Scorecard the IOU is prioritizing in its initial TEP and describe the strategies the IOU will employ to achieve these. **[If the Final TEF does not combine the TEP application with the program**

funding application - 5.a. should be modified as suggested. If the Final TEF does adopt a streamlined one-step process – 5.a. should be retained as written.]

b. Describe their portfolio-wide targets and metrics and strategies to achieve them
c. Propose an overarching evaluation budget within their TEP **[If the Final TEF does not combine the TEP application with the program funding application – Delete 5.c.; However, if the Final TEF does adopt a streamlined one-step process - no edits requested.]**
d. Propose evaluation strategies in each program and pilot application to ensure every investment is designed to meet targets and track metrics from the CPUC adopted final Scorecard **[If the Final TEF does not combine the TEP application with the program funding application – Delete 5.d.]**
e. ~~Include cost comparison data from at least two third-party sources when submitting pilot and program applications~~

6. Equity Considerations
    a. Include strategies to ensure TE investments are distributed across Environmental and Social Justice (ESJ) communities as identified in Chapter 6 of the TEF
        i. Determine the appropriate equity designation(s) for each TE program depending on the focus of the TE investment, as outlined in Chapter 6
        ii. Include plans within TEPs and future program and pilot applications plans for distributing funds across ESJ communities and address the equity barriers outlined in Chapter 6, including:
            1. Providing higher program incentives to ESJ communities, where appropriate; and
            2. Designing programs to specifically address the needs of ESJ communities.
    b. Include within TEPs discussion of how the IOU will partner with planning agencies, local, governments, communities, and EJ groups to ensure equitable distribution of TE investments.
    c. Seek input from ESJ communities and clearly incorporate the feedback into TEPs~~, program applications, and advice letters~~ **[If the Final TEF does not combine the TEP application with the program funding application – 6.c. should be modified as suggested.]**
7. Safety Considerations
    a. Identify any existing workforce needs and/or training necessary to ensure IOU TE infrastructure is installed safely

b. Propose strategies to collaborate ~~partner~~ with ~~the California Workforce Development Board~~ workforce development groups to support ~~to ensure any~~ additional training ~~is available to all otherwise eligible~~ that may be needed for contractors and electricians
c. Identify strategies to ensure that IOU-funded infrastructure is safely maintained or decommissioned after the program period ends or the conclusion of its useful life

8. Technology and Standards Requirements
   a. Ensure all publicly accessible TE infrastructure installed through IOU programs meet existing state regulations and are capable of high-level communication
   b. Propose strategies to ensure TE infrastructure projects being installed outside of IOU programs are not unduly delayed
   c. Discuss how existing national cybersecurity standards are integrated in the IOUs' TEPs
      i. Evaluate whether additional or updated standards are necessary for the security of IOU TE infrastructure deployment.
      ii. Describe how IOUs intend to engage cybersecurity standards organizations to fill any existing gaps or address outstanding cybersecurity concerns
   d. Describe the steps necessary to implement a streamlined process for load only EV charging installations
   e. Propose processes to determine whether utility service upgrades are needed at potential EVSE sites
      i. Include strategies that reduce the time between application filing date and sit energization
      ii. Include strategies to ensure third-party EVSE installations and IOU owned EVSE are weighted equally on interconnection queues

9. EV Rate Evolution Plan (EVREV)
   a. Describe any new rates to be proposed over the next 5~~10~~ years to follow the rate design principles described in Section 9.1
      i. ~~Include an evaluation of current EV rates in California and elsewhere~~ ii. Propose a schedule for periodically evaluating EV rates
   b. Identify rates that would apply to specific programs and explain any use case or sector-specific rates including in the EVREV
   c. Describe any programs aimed at creating value from EV-specific load management ~~i. Explain who would be eligible to recover the value, and how that value would be passed to the eligible entity(ies)~~

ii. Discuss how EV-specific rates will align with other load management and demand response programs

d. Describe any rate design, load management, or EV charging educational programs designed to defer distribution upgrades
e. Identify strategies to increase enrollment in EV rates

10. Rate Recovery and Allocation
    a. Describe how TE program costs are recovered through the distribution rate component of customers' bill
    b. ~~Include how TE program costs will be recovered from the appropriate customer class(es)~~ **[If the Final TEF does not combine the TEP application with the program funding application – Delete 10.b.]**
    c. Describe the timeframe and process for the IOU reviewing the allocation factor for TE program costs within its General Rate Case 2 proceedings.
11. Public Private Partnerships
    a. Discuss potential partnership opportunities on a portfolio-wide ~~and program-specific scale~~ **[If the Final TEF does not combine the TEP application with the program funding application – 11.a. should be modified as suggested.; If the Final TEF does adopt a streamlined one-step process –11.a. should be retained as written.]**
    b. Include identified third-party financing that will be leveraged as part of the IOU TE portfolios and overall TE investment plans
12. Regional Coordination
    a. Convey how the IOU sought Air Districts' support and how the IOUs will inform the Air District and other local coordinating council(s) about the IOUs' TE program(s).
    b. Include metrics to show how their TEPs ~~and program(s)~~ will provide incremental air quality improvements that contribute to helping the region achieve the attainment goals of the SIP. **[If the Final TEF does not combine the TEP application with the program funding application – 12.b. should be modified as suggested.]**
    c. Refer to the Infrastructure Deployment Strategy, Air District *State Implementation Plans* compliance programs, and Metropolitan Planning Organization's *Transportation Improvement Programs* in their program applications to identify and design programs that address EV charging infrastructure gaps throughout their service territories.
    d. Align with and support other available Air District and MPO grant funding opportunities to design TE programs

that can help the state come meet ambient air quality standard attainment.

e. Designate staff time to participate in the regional EV Coordinating Councils within their service territories, when available and applicable.

f. Evaluate opportunities to provide information and training to local officials to support implementation of "PEV Readiness" plans, including adoption of local "Reach Codes" to provide increased TE infrastructure ~~and training local code officials~~.

13. Evaluate each of the following priority segments and opportunities reflected in subsections a-e, and any new segments that deserve consideration ~~identified in the TEF~~:

    a. Strategies to support infrastructure necessary to help transit agencies, fleets, ports, and other medium- and heavy-duty and off-road vehicle operators shift to EVs to comply with CARB regulations

    b. Strategies to facilitate CALGreen implementation and incent building developers to exceed minimum EVSE code requirements

    c. Strategies to support implementation of local "PEV Readiness" plans, including adoption of local "Reach Codes"

    d. Strategies to advance vehicle-grid integration across all proposed TE programs and infrastructure investments

    ~~d.~~e. Strategies to provide charging to customers without access to home charging, such as priority light-duty DCFC

14. Marketing, Education, and Outreach efforts

    a. Propose ~~a single budget and~~ an overarching ME&O plan and budget within the TEP focused on TE programs, EV rates, and EV charging behavior~~, and the electric grid~~. **[If the Final TEF does not combine the TEP application with the program funding application then the budget requirements should be removed.]**

        i. Where feasible, the IOUs should coordinate their outreach about EV charging behavior and its interaction with grid reliability across IOU territories

        ~~ii. The IOUs should consider budgeting for a third-party program administrator to implement this effort.~~

        ~~iii.~~ii. There should be a clear focus on reaching ESJ communities with this program.

        ~~iv.~~iii. Identify clear targets and metrics for this program.

    b. Develop broad ME&O plans that include collaboration plans with CBOs, EJ groups, and local governments

        i. These outreach plans should include the specific organizations that the IOUs will be collaborating

with and how they will engage with the community or communities they are seeking to reach

ii. The

c. Include strategies to evaluate the IOU's ME&O efforts to measure progress toward the targets and metrics adopted in the final Scorecard

d. Coordinate LCFS ME&O with other TE ME&O efforts.